

## LOCATING A SOURCE OF EMANATIONS

Abstract of the Disclosure

5

A method of determining the position and emission rate of at least one source of emanations into an intervening medium, which method comprises measuring the concentration of the emanations in the intervening medium at selected measurement locations to obtain observed data, and measuring the velocity of the intervening medium; postulating a dispersion model; postulating a source model containing source parameters, such as the position(s) of assumed source(s) and assumed emission rate(s); calculating with the dispersion model for a postulated source model the concentration that would arise at the measurement location(s) to obtain synthetic data for the postulated source model; comparing the synthetic data with the observed data to obtain the source model that gives the closest fit; and outputting the position and emission rate of the at least one source assumed in the source model that gives the closest fit, wherein the concentrations of the emanations are measured by point measurements using an ultra-sensitive detector with an appropriate response time.